

REMARKS

By this amendment, claims 1-20 are pending, in which claims 1-15 are currently amended, and claims 19-20 are newly presented. No new matter is introduced.

The Office Action mailed May 3, 2006 objected to claim 1 for an informality and rejected claim 4 under 35 U.S.C. § 112, ¶ 1, for lack of enablement, claims 1-18 as obvious under 35 U.S.C. § 103 based on *Lu* (US 6,480,911).

In response to the claim objection, claims 1-13 are amended to recite “queuing congestion device.”

The rejection of claim 4 is respectfully traversed because the present application, as filed, enables a person of ordinary skill in the art, without due experimentation, to practice the invention set forth in claim 4, which reads “wherein a discard policy is enabled for the first queue based on the loading of the capacity of the second queue.” Sufficient enabling details for the structure and operation of this feature recited in claim 4 is found throughout the specification, including, for example, page 19, lines 15-25, as follows:

Finally, the loading level 6 shown of the second queue 74 will trigger the discard policy labeled with the numeral 6 as shown in connection with the loading of the first queue 72. If this condition is reached, and assuming that the first queue 72 is associated with the highest priority traffic, congestion is reaching a critical stage at the egress port 82 and even high priority traffic must be discarded when such policy conditions are met. This is an example of how inputs from one queue could be utilized to control policy decision for other queues, again, forming closed loop control at the point of congestion.

The rejection of the claims over *Lu* is respectfully traversed, because this reference does not teach or otherwise suggest the features of the claims. For example, originally presented claim 18 recites the feature of “enabling a discard policy for the third queue based on the loading of the capacity of the second queue.” This is not shown in *Lu*, however.

Lu is directed to a class queuing system whose queues are distinguished by various classes “based on desired characteristics of a host process such as a network process.” *Lu* discloses the use of two types of buffer thresholds in its technique for maintaining a particular quality of communication: hard and soft. While both the hard and sort buffer thresholds specify the “maximum number of data packets than can be stored in the queue before an action is taken” (col. 7:57-58), the actions taken are different. For hard buffer thresholds, the action taken is drastic: “data packets are dropped or deleted” (col. 7:61-62), but, on the other hand, the soft buffer threshold is more flexible, permitting a “recovery action such as changing the weights to realign data throughput to adapt” (col. 8:27-28).

As its name indicates, *Lu*’s **hard** buffer thresholds are closely tied to underlying hardware limitations and are inflexible. For example, the only example of a hard buffer threshold given in *Lu* is “the maximum physical memory size” (col. 7:61; cf. “implemented via memory mapping” at 1:38), and *Lu* nowhere discloses, much less hints at, the possibility that its hard buffer thresholds can be readjusted during operation. In fact, *Lu* counsels against the use of “[c]omplex schemes for dropping data packets” (col. 7:66) and recommends instead the use of **soft** buffer thresholds that always less than corresponding hard buffer thresholds (col. 8:24-25). These soft buffer thresholds are set so that the *Lu* system can readjust its capacity weights in an effort to avoid exceeding the hard buffer thresholds (e.g., col. 8:24-29).

By contrast, *Lu* fails to suggest “enabling a discard policy for the third queue based on the loading of the capacity of the second queue.” The packets are always and only discarded in *Lu* when its inflexible, hard buffer thresholds are exceeded. To the extent that *Lu* struggles to deal with exceeding the hard buffer solution, *Lu* teaches against “enabling a discard policy” in its blanket condemnation of complex packet-dropping “schemes.”

The Office Action, p. 5, contends that it would have been obvious to add the claimed features to *Lu* “to improve the system operation with medium class packets by providing them additional buffer space, taken from the buffer space designated for the low class priority packets 10:45-51.” The cited passage does not support the rejection, however, because it is instead directed to readjusting the **soft** thresholds by readjusting weights:

The buffer threshold for Example 3 is a hard threshold. However, a soft threshold may be generated based on network parameters such as transmission throughput, end-to-end delay, quality of transmission, error rate, etc. If the number of data packets exceed the soft buffer threshold, then the weights may be adjusted to ensure minimum bounds.

Accordingly, claim 18 is non-obvious over *Lu* because *Lu* not just fails to suggest “enabling a discard policy . . . queue based on the loading of the capacity,” it even teaches against it.

Furthermore, *Lu* does not render obvious independent claims 1 and 14, which have been amended to recite “a discard policy is enabled for the third queue based on the loading of the capacity of the second queue.”

Dependent claims 2-13, 15-17, and newly presented dependent claims 19-20 are allowable over *Lu* for at least the same reasons as their independent claims and are individually patentable on their own merits.

Though the rejection of claim 14 is moot in light of this amendment, the invocation of official notice for the particular use of a switch matrix configured and operable as claimed is respectfully traversed.

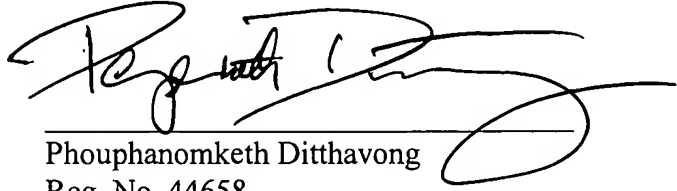
Therefore, the present application, as amended, overcomes the objections and rejections of record and is in condition for allowance. Favorable consideration is respectfully requested. If any unresolved issues remain, it is respectfully requested that the Examiner telephone the

undersigned attorney at (703) 425-8508 so that such issues may be resolved as expeditiously as possible.

Respectfully Submitted,

DITTHAVONG & MORI, P.C.

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Date



Phouphanomketh Ditthavong
Reg. No. 44658

Stephen C. Carlson
Reg. No. 39929

Attorneys for Applicant(s)

10507 Braddock Road
Suite A
Fairfax, VA 22032
Tel. (703) 425-8508
Fax. (703) 425-8518